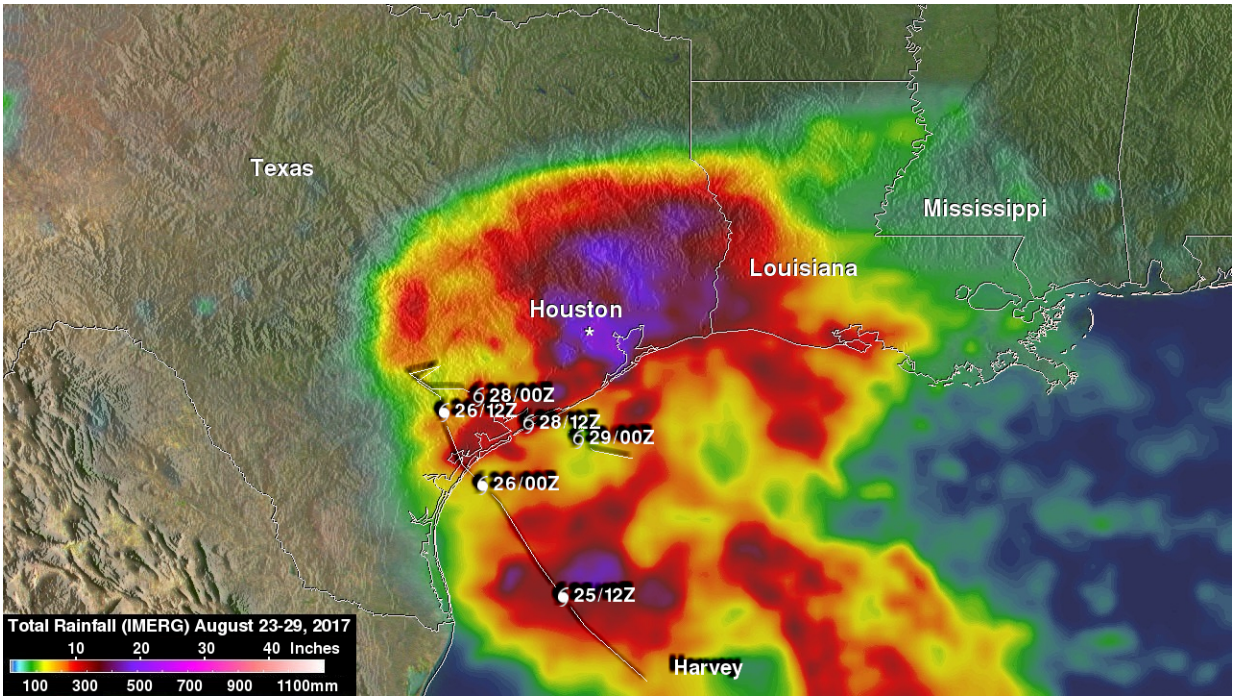
NASA's IMERG shows rainfall accumulation along Harvey's track

August 29 2017, by Rob Gutro, Alan Buis



IMERG data for Harvey were compiled for the period from August 23 to 29, 2017 as it moved through the Gulf of Mexico and stalled over Texas. The IMERG totals showed over 30 inches of rainfall had occurred in the Houston metro area and part of the western Gulf of Mexico. Credit: NASA JAXA, Hal Pierce

As Harvey continues to dump catastrophic rains over southeastern Texas and southwestern Louisiana, NASA has been tallying rainfall

accumulations in the storm's wake.

Total rainfall estimates from NASA's Integrated Multi-satellitE Retrievals for GPM (IMERG) data were compiled for the period from August 23 to 29, 2017. During this period Harvey dropped heavy rainfall as it moved through the Gulf of Mexico and stalled over Texas. The IMERG totals showed over 30 inches of rainfall had occurred in the Houston metro area and part of the western Gulf of Mexico.

It has been reported that Harvey dropped over 40 inches (1016 mm) of rain over southeastern Texas during this period. IMERG Data are produced at NASA's Goddard Space Flight Center in Greenbelt, Maryland, using data from the satellites in the Global Precipitation Measurement mission or GPM Constellation, and is calibrated with measurements from the GPM Core Observatory as well as rain gauge networks around the world.

The National Weather Service reported at 1 p.m. CDT on Aug. 29 "A preliminary report from one Texas rain gauge has broken the Texas tropical cyclone rainfall record. Southeast of Houston, Mary's Creek at Winding Road reported 49.32 inches as of 9 a.m. CDT. This total is higher than the previous record of 48 inches set during tropical cyclone Amelia of 1978 at Medina, Texas."

The National Hurricane Center (NHC) indicates that Harvey continues to drop heavy rain over southeastern Texas and southern Louisiana as it moves toward the north-northeast.

Warnings and Watches in Effect as of 1 p.m. CDT, Aug. 29

The NHC said a Tropical Storm Warning is in effect from nNorth of

Port O'Connor, Texas to Morgan City, Louisiana. A Tropical Storm Watch is in effect from east of Morgan City to Grand Isle, Louisiana. A Storm Surge Watch is in effect from Port Bolivar, Texas to Morgan City.

More Heavy Rainfall Expected

NHC forecasters noted that catastrophic and life-threatening flooding continues in southeastern Texas and portions of southwestern Louisiana. Harvey is expected to produce additional rainfall accumulations of 6 to 12 inches through Friday over parts of the upper Texas coast into southwestern Louisiana.

Isolated storm totals may reach 50 inches over the upper Texas coast, including the Houston/Galveston metropolitan area. These rains are currently producing catastrophic and life-threatening flooding over large portions of southeastern Texas and southwestern Louisiana.

Elsewhere, Harvey is expected to produce additional rainfall amounts of 5 to 10 inches across portions of southern Louisiana into coastal Mississippi and Alabama. Rainfall associated with Harvey will spread north by mid to late week, with rainfall amounts of 4 to 8 inches spreading into portions of Arkansas and the Tennessee Valley.

A list of rainfall observations compiled by the NOAA Weather Prediction Center can be found at:
http://www.wpc.ncep.noaa.gov/discussions/nfdscc1.html

Winds, Storm Surge, Ocean Swells

Tropical storm conditions are occurring over portions of the warning area along the coast and are likely to persist during the next day or so.

The combination of a dangerous storm surge and the tide will cause normally dry areas near the coast to be flooded by rising waters moving inland from the shoreline. The water is expected to reach the following heights above ground if the peak surge occurs at the time of high tide...

San Luis Pass to Morgan City including Galveston Bay...1 to 3 ft

The deepest water will occur along the immediate coast near the area of onshore winds. Surge-related flooding depends on the relative timing of the surge and the tidal cycle, and can vary greatly over short distances.

Swells generated by Harvey are still affecting the coasts of Texas and Louisiana. These swells are likely to cause life-threatening surf and rip current conditions.

Harvey's Location at 1 p.m. CDT, Aug. 29

At 1 p.m. CDT (1800 UTC), the center of Tropical Storm Harvey was located near 28.8 degrees north latitude and 94.3 degrees west longitude. That's about 80 miles (130 km) south-southwest of Port Arthur, Texas and about 95 miles (155 km) southwest of Cameron, Louisiana. Harvey was moving a little faster toward the north-northeast near 8 mph (13 kph), and this general motion is expected to continue today and tomorrow, Aug. 30. On the forecast track, the center of Harvey is expected to move inland over the northwestern Gulf within the tropical storm warning area later tonight or early Wednesday.

Maximum sustained winds remain near 45 mph (75 kph) with higher gusts. NHC said no significant change in strength is expected before the center moves inland. A gradual weakening should begin thereafter. The estimated minimum central pressure is 997 millibars.

Provided by NASA's Goddard Space Flight Center

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